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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,262	09/06/2005	Eiji Ichihara	Q86135	9895
23373 7590 02/08/2007 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER VERBITSKY, GAIL KAPLAN	
			ART UNIT 2859	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	DELIVERY MODE
3 MONTHS			02/08/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/524,262	<b>Applicant(s)</b> ICHIHARA ET AL.	
	<b>Examiner</b> Gail Verbitsky	<b>Art Unit</b> 2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 11-21 is/are rejected.
- 7) ☒ Claim(s) 7-10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>02/1105</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Claim Objections*

1. Claims 1-6, 7, 9-10, 14-15, 19-21 are objected to because of the following informalities:

Claim 1: A) it has been held that an element is “capable of” performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute limitations in any patentable sense. In re Hutchinson, 69 USPQ 138.

Claims 1-4: Perhaps applicant should delete “given” in lines 4, 6 and 8 of claim 1, line 3 of claim 2, line 3 of claim 3, and line 2 of claim 4, and replace it with –actual--, since normally the “given temperature” is the one that is given but not measured. Or, may be applicant means “temperature of a given tire”?

Claim 2: Perhaps applicant should replace “of the rising degree of the measured given temperature” in line 3 with –of the increasing of the measured temperature--.

B) “the calculated” in line 9 lacks antecedent basis.

Claim 7, 9-10: Brackets in lines 3-4 of claim 7, lines 4-5 of claim 9, lines 3-4 of claim 10 respectively should be deleted because it is not clear if the limitation included in the brackets has been positively claimed.

Claim 14: A) it has been held that an element is “capable of” performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute limitations in any patentable sense. In re Hutchinson, 69 USPQ 138.

C) “(Fourth Invention)” at the end of the claim should be deleted.

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Claim 14: the limitations stating "ratio of temperature change at each measuring time" and "becomes higher than the ratio of temperature change just before the calculation" make the claim language confusing. Does applicant mean "rate" instead of "ratio".

Perhaps applicant should rewrite the claim after "measured" in line 8 as follow: -- and a rate of temperature change at each measuring time is calculated, a time point when the temperature rate change becomes higher than a limit (predicted, threshold) temperature change is judged as an end stage of the residual life in the run-flat tire during continuous running at the run-flat state--. Is this a proper interpretation of the invention?

Claim 19: A) "(Six Invention)" at the end of the claim should be deleted.

B) it has been held that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute limitations in any patentable sense. In re Hutchinson, 69 USPQ 138.

C) Perhaps applicant should replace "ratio" in line 5 with --rate--.

Claim 15: the last three lines of the claim are not clear. Perhaps applicant should rewrite the claim beginning after "claim 14" in line 3 as follows: --wherein after a limit temperature has been statistically determined from previous occurrence of trouble, said limit temperature is being set as a condition for comparison for judging an end stage of the residual lifetime, when the atmospheric temperature inside the tire reaches about said limit temperature, it is concluded that the tire is at the end stage of the residual lifetime--. Is this a proper interpretation of the invention?

Claim 20: Perhaps applicant should replace "ratio" in line 3 with --rate--.

Claim 21: Perhaps applicant should replace "ratio" in line 3 with --rate--.

Claim 6: "an atmosphere temperature" lacks antecedent basis.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In this case,

3. Regarding claims 1, 5, 14, the phrase "or the like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d).

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-6 and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 01/17806A1 [hereinafter WO].

WO suggests to monitor a flat/ deflated tire and teaches to position a temperature sensor in each tire and monitor an atmospheric temperature and rate of change of temperature in each tire and compare it with a predetermined value (previously determined rate of change of temperature/ previously set limit) in order to determine flat

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tire. WO determines first time temperature derivative and second derivative. WO suggests reinforcing the tires. WO states that it is important for a driver, when it drives a car with a deflated tire to know if can drive more and how long rather than staying on a side road and repairing the tire. This would imply that the driver wants to know the end life of the tire as function of the temperature. WO does not explicitly state that the predetermined data is a previously obtained data stored in the memory.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/17806A1 [hereinafter WO] in view of Tanaka Masatoshi (U.S. 6701986).

WO discloses the device/ method as stated above.

WO does do not teach to reinforce tire with a reinforcing rubber.

Masatoshi Tanaka states that it is very well known in the art to reinforce tires with rubber layer in order to prolong their life.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the tire, disclosed by WO, with reinforcing rubber, as taught by Masatoshi Tanaka, in order to prolong the tire life and provide the operator with the tire behavior when it is reinforced, in order to predict life of already reinforced tire.

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8. Claims 14-16, 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/17806A1 [hereinafter WO] in view of Nowicki et al. (U.S. 5945908) [hereinafter Nowicki].

WO suggests to monitor a flat/ deflated tire and teaches to position a temperature sensor in each tire and monitor an atmospheric temperature and rate of change of temperature in each tire and compare it with a predetermined value (previously determined rate of change of temperature) in order to determine flat tire. WO determines first time temperature derivative and second derivative. WO suggests reinforcing the tires. WO states that it is important for a driver, when it drives a car with a deflated tire to know if can drive more and how long rather than staying on a side road and repairing the tire. This would imply that the driver wants to know the end life of the tire as function of the temperature.

WO does not explicitly state that the predetermined data is a previously obtained data stored in the memory.

Nowicki discloses a device/ method in the field of applicant's endeavor. Nowicki states that expected tire life (end stage) is calculated based on a tire temperature and pressure. Tire degradation/ wear information is stored in a memory in a computer. The computer has a program for calculating accumulation of degradation of the tire and calculation of the expected life/ end stage. The parameters are compared against previously stored parameters. If they exceed a limit, the operator is being notified (entire col. 8).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by WO, to keep a previously obtained data in a memory, in order to allow the operator to provide a comparison of a recently obtained data to the previously obtained data, so as to properly judge if there is some change in the tire which could cause a limited life of the tire.

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nowicki and WO 01/17806A1 [hereinafter WO] in view of Masatoshi Tanaka (U.S. 6701986).

WO and Nowicki disclose the device/ method as stated above.

Although they teach to reinforce the tire, they do not explicitly teach to reinforce the tire with rubber layer.

Masatoshi Tanaka states that it is very well known in the art to reinforce tires by rubber in order to prolong their life.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the tire, disclosed by WO and Nowicki, with reinforcing rubber, as taught by Masatoshi Tanaka, in order to prolong the tire life and provide the operator with the tire behavior when it is reinforced, in order to predict life of already reinforced tire.



***Allowable Subject matter***

10. Claims 7-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in the PTO-892 and not mentioned above disclose related devices and methods.

**Aubel et al. (U.S. 6921197)** disclose a device/ method/ process of judging in the field of applicant's endeavor comprising detection units arranged in each tire capable of measuring temperature of the tire and determining with respect to time (integrating) when the wear (residual lifetime) or the tire exceeds a threshold (statistically set temperature or the temperature set from the test stand), wherein the tire pressure control decides to inflate the tire (thus, deciding that the tire is flat which is judged based on the measured temperature). The measured temperature is a temperature inside the tire. The device also predicts the wear (time). Aubel states that the sides of the tire are more likely susceptible to wear. Also the tire damage can be detected (entire col. 5). Aubel states that the too high temperature can be indication of too low pressure (flat tire).

For claims 12-13: the device has an evaluation unit/ microprocessor/ computer comprising a storage device/ memory (col. 6, lines 20-28, col. 7, lines 35-37).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gail Verbitsky whose telephone number is 571/ 272-2253. The examiner can normally be reached on 7:30 to 4:00 ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571/ 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GKV

Gail Verbitsky

Primary Patent Examiner, TC 2800



February 01, 2007